

Providing Leadership in Environmental Entomology

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GROUND PEARLS

Ground pearls are a type of scale insect that lives on the roots of turfgrasses. The immature stages (nymphs) suck sap from the grass roots. Ground pearls are found throughout the southern United States. Warm season grasses, such as bermudagrass, St. Augustinegrass, zoysiagrass, and centipedegrass are frequently attacked. Bermudagrass and centipedegrass are the most susceptible to damage. Ground pearl problems seem to be worse in lighter soils.



Ground pearls on centipedegrass roots.

Photo: C. S. Gorsuch

Feeding by the nymphs causes irregular patches of grass to appear unthrifty. Under drought conditions, the grass will become yellow and eventually turn brown and die. Weeds will rapidly invade the bare patches. Grass will rarely survive in the infested areas even when replanted.

The life cycle of ground pearls is not well known. This is because most of their life is spent below ground. The nymphs may be found as deep as 10 inches below the soil surface.

From late-May to early July, adult females come to the soil surface and move about for about 9 days. Then they burrow into the upper ¼ inch of soil and secrete a



Adult female ground pearls. The bottom photo shows the underside of one female.

Photo: Top, C. S. Gorsuch; Bottom, Unknown

waxy coating in which the eggs are deposited. Over the next 7 – 12 days the female will lay about 100 eggs and then die. The eggs begin to hatch in about 10 days and may continue into August. The hatchlings, or crawlers, move to the grass roots, insert their mouthparts, and begin to feed on the sap. Once they are attached to the root they begin to form a globular cyst-like structure around their body. This is the “pearl” stage. The pearl is usually a yellowish to purple color. The pearls range in size from 0.5 to 2 mm. The thread-like mouthparts extend through the pearl and are inserted into the root.

The nymphs spend the winter in the pearl-stage. Normally, there is a single generation per year. However, under unfavorable conditions, it may take as long as three years to complete a generation.

There are no known controls for ground pearls. The only management strategy is to try to keep the grass as healthy as possible. This includes proper fertilization, watering, and control of other pests. This usually slows the spread of the problem, but will not stop it completely. Reseeding in an infested area usually fails. The grass will most likely die in a very short time.

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